

Aero Design Ltd.

Work Order Control Sheet

Work Order#: 2015-87 Date Opened: 07-Aug-15 Title: Assembly

Aircraft OEM: Bell Aircraft Model: 407 Product Type: Cargo Basket Product Model: Ski Quantity: 1

Work Order Contents

Work Order/Build Sheets (Procedures Provided)
Additional Work Sheets (Standard Practice)
Drawings (See List Below)
Parts Distribution Sheet
Sub Component Tags
Completed Certification (Original)
Time Sheet (R&D)
Notes

Initial or N/A

JR
N/A
JR
JR
JR
JR
N/A
N/A

Build Sheet Contents

Tasks Initialled
Dual Inspections Initialled

Initial or N/A

JR
JR

Drawing List

Drawing #	Rev #	Description	Initial or N/A
94610	0	Basket	JR
94627	0	Placard	JR

Component Completion

Quantity Complete on This Work Order
Quantity Incomplete on This Work Order
Further Processing Required Before Release
Release to Stock as Components

As Instructed

1
N/A
N/A
N/A

Certification

Form One Completed
Serviceable (Green) Tag Completed
In Process (Yellow) Tag Completed
Unserviceable (Red) Tag Completed
Parts Placed in Stores for Distribution

Initial or N/A

JR
N/A
N/A
N/A
N/A

Additional Documentation

Documentation of a minor change
Non-Conformance Report Required
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
Research and Development
Third Party

Initial or N/A

JR
N/A
N/A

Traveller

Install walkway on lid
Install lid on basket body
Re-tap mounting lug holes and install mount lugs
Install handle brackets
Install handle
Install lid prop
Install data plate

Initial or N/A

JR
JR
JR
JR
JR
JR
JR

Work performed by:

Print: J Rekve for M Rekve

Sign: Jason Rekve

ICC / Dual Inspection preformed by:

Print: Jason Rekve

Sign: Jason Rekve

Work Order closed by:

Print: Jason Rekve

Sign: Jason Rekve

Approved Manufacturing Facility 73-04

Form 20.D.03

SCA: AD01

Date: 07-Aug-15

SCA: AD01

Date: 07-Aug-15

SCA: AD01

Date: 01-Sep-15

Rev. Original 23 Sep 2014



Aero Design Ltd.

9888 A Malaspina Rd., Powell River, BC
V8A 0G3, 604-483-AERO (2376)

Quantity: 1

PN: 94611-01

Aircraft: Bell Model: 407

Description: Ski Basket

Supplier: N/A

Color: White

WO#: 2015-33

PO# N/A



Aero Design Ltd.

9888 A Malaspina Rd., Powell River, BC
V8A 0G3, 604-483-AERO (2376)

Quantity: 1

PN: Aluminum Checker plate

Aircraft: All Model: All

Description: 5 7/8" x 10', .065", pattern c102

Supplier: Daigle Marine

Color: N/A

WO#: N/A

PO# 15056



Aero Design Ltd.

9888 A Malaspina Rd., Powell River, BC
V8A 0G3, 604-483-AERO (2376)

Quantity:

1

PN:

94621-01

Alt:

N/A

Aircraft:

Bell

Model:

206L/407

Description:

Brace

Supplier:

Aero Design Ltd.

Color:

Clear

WO#:

2011-45

PO#:

N/A

CARGO BASKET ASSEMBLY - COMMON**General**

These instructions apply to all cargo basket assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only

69810, Revision 3 – Standard Low Mounted Basket

94510, Revision 0 – Extra-Wide Low Mounted Basket

94610, Revision 0 – Extra-Wide Low Mounted Ski Basket ✓

76610, Revision 0 – High Mounted Ski Basket

Eurocopter AS350/AS355 – left or right

77610, Revision 1 – Short Basket

76410, Revision 3 – Medium Basket (left or right)

78410, Revision 2 – Long Basket

94010, Revision 0 – Extra Large (ski) Basket

Robinson R44 – left or right

90610, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only

80210, Revision 0 – Short Basket

80310, Revision 0 – Medium Basket

81110, Revision 0 – Long Basket

Bell 429 – right or left

95911, Revision 0 – Standard Basket

Bell Medium – left or right

75111, Revision 0 – Standard Basket

95511, Revision 0 – Extra Large (ski) Basket

MD600

82811, Revision 0 – Standard Basket

Options

70405, Revision 3? – Lid Walkway

CARGO BASKET ASSEMBLY - COMMON

Complete
(initial or SCA #)

Work Order: 2015-87

Date Open: 07 Aug 15

1. Lid Assembly

ADD

- a. Install lid bumpers on bottom.
 - i. Fill bumper holes with RTV silicone sealant.
 - ii. Insert 49205-14 lid bumper, 3 or 4 places per lid.
- b. Install placard on bracket on top of lid.
 - i. Locate placard on bracket.
 - ii. Drill #30 through placard and bracket, using holes in placard.
 - iii. Remove placard and de-burr holes in placard and on bracket.
 - iv. Locate placard on bracket, and cleco in place.
 - v. Rivet placard with four CR3213-4-02 CherryMax rivets.
- c. Option: Install walkway on top of lid (lid must be fitted with walkway provisions)
 - i. Note: avoid touching surface of tread plate with bare hands to prevent smudges or marks on the top surface.
 - ii. Pull tread plate from stock. Shear tread plate to length.
 - iii. De-burr edges of tread plate with scotch-brite disc on die-grinder.
 - iv. Locate tread plate on lid. Hold tread plate in place with bags of lead shot.
 - v. Mark and drill #30 holes:
 1. 0.25" from edge of tread plate, centre on cross members (0.38")
 2. 0.25" from edge of tread plate, middle of each walkway stringer
 - vi. De-burr and counter-bore (if required to provide clearance of rivet head on checker pattern) all holes in tread plate using 1/4" piloted counter bore on both sides.
 - vii. De-burr holes in lid tubes.
 - viii. Apply bead of RTV silicone sealant along all tubes under tread plate.
 - ix. Set tread plate in place, secure with clecos if necessary.
 - x. Rivet placard with CR3213-4-02 CherryMax rivets
- d. Record PO/WO of all parts (including lid) used in steps above on attached material tracking list.

2. Body Assembly

ADD

- a. Install attachment fittings
 - i. Carefully remove excess powder coat from around attachment lug threads using a countersink.
 - ii. Run 3/8-24 tap into attachment lugs to clear threads.
 - iii. Apply anti-seize compound to attachment fittings 96710-01 (alternate: Ancra 40088-14)
 - iv. Install attachment fittings with two NAS1149F0363P washers in four lugs in basket.
 1. 90610 (Robinson R44) basket only:
 - a. Install 1 fitting 906?? in lower forward attachment lug only.
 - b. Install 3 96710-01 fittings in remaining locations.
 - v. Torque to ??

- b. 946 Basket Only: Install Cutout Brace – *must be completed after hinge installation*
 - i. Locate 94621-01 Brace over aft cross tube cutout
 - ii. Install two AN4-6A bolts and two AN4-30A bolts with NAS1149F0463P washers.
 - iii. Torque AN4 bolts to ??
- c. Record PO/WO of all parts (including basket) used in steps above on attached material tracking list.

3. Hinge Installation

- a. Prepare hinge. Appl
 - i. Cut hinge to length:
 - 1. 776, 906 – 54"
 - 2. 751, 803 – 70"
 - 3. 698, 764, 945 – 72"
 - 4. 784 – 90"
 - 5. 940, 946, 959 – 95"
 - ii. Drill #30 pilot holes using hinge jig. For long hinges, flip at specified location on jig.
- b. Install hinge on basket
 - i. Locate hinge on basket (standard baskets)
 - 1. centre fore/aft
 - 2. 0.15" – 0.18" up from bottom edge
 - ii. Locate hinge on basket (extra wide baskets)
 - 1. centre fore/aft
 - 2. set hinge at 90 degrees (as if lid would be installed) using a small square, locate vertical side at 22.5" from outboard edge.
 - iii. Drill #30 through holes in hinge into basket rim. Cleco in place with 1/8 (copper) clecos.
 - iv. Drill holes up to #21 through hinge and rim. Replace 1/8 clecos with 5/32 (black) clecos.
 - v. Remove hinge and de-burr holes in hinge and basket rim.
 - vi. Cleco hinge to basket with 5/32 clecos.
 - vii. Install hinge with CherryMax rivets
 - 1. CR3523-5-02 monel rivets – last 2 rivets in each end
 - 2. CR3213-5-02 aluminum rivets – all other locations
- c. Install lid on basket
 - i. Locate lid on hinge (all baskets)
 - 1. center fore/aft
 - 2. 0.15" – 0.18" down from top edge
 - ii. Drill #30 through holes in hinge into lid rim. Cleco in place with 1/8 clecos.
 - iii. Drill holes up to #21 through hinge and rim. Replace 1/8 clecos with 5/32 clecos.
 - iv. Remove hinge and de-burr holes in hinge and lid rim.
 - v. Cleco lid to hinge with 5/32 clecos.
 - vi. Install hinge with CherryMax rivets
 - 1. CR3523-5-02 monel rivets – last 2 rivets in each end
 - 2. CR3213-5-02 aluminum rivets – all other locations

- d. Record PO of hinge and rivets on attached material tracking list.

4. Install Handle

Adob

- a. Install handle brackets.
- Set 84267-01 handle bracket on provisions in hoops, 2 places.
 - Install AN3-11A bolt, NAS1149F0363P washer (2), MS21044N3 nut. Two places per bracket, two brackets per basket.
 - Torque AN3 bolts to ??.
- b. Install handle
- Trim 36278-01R and 36278-01L springs to ensure end of spring does not extend past edge of handle bracket, approximately 1/8". Set springs over bushing of 84261-01 handle assembly.
 - Grease two 36275-01 bushings with ??. Insert into bushings of handle assembly.
 - Locate handle on basket lid. Insert AN3-12A bolt with NAS1149F0363P through bracket on lid and handle bushing on one end of handle.
 - On other end of handle, hook spring over catch rivet on handle assembly and use spring tool to twist spring to catch arm on bracket on lid while inserting AN3-12A bolt with NAS1149F0363P washer through lid bracket and handle bushing.
 - At first end, remove bolt and repeat step iv.
 - Install NAS1149F0363P washer and MS21044N3 nut on both AN3-12A bolts.
 - Torque AN3 bolts to ??.
- c. Check handle
- Operate handle to ensure handle does not bind and springs hold handle in.
 - Snap handle into brackets to ensure handle locks.
- d. Record PO/WO of all parts used in steps above on attached material tracking list.

5. Install lid brace

Adob

- a. Locate 36280-01 lid brace on bushing in basket. Ensure brace is on forward end of basket as it will be installed on the helicopter.
- b. On lid end, insert AN970-3 washer into end of lid brace. Insert AN3-15A bolt with NAS1149F0363P washer through AN970-3 washer, lid prop, and lid bushing. Install NAS1149F0363P washer and MS21044N3 nut on bolt.
- c. On basket end, insert AN3-17A bolt with AN970-3 washer through lid prop and basket bushing. Install NAS1149F0363P washer and MS2144N3 nut on bolt.
- d. Ensure brace is seated on lip of bushings before tightening nuts.
- e. Torque AN3 bolts to ??
- f. Record PO/WO of all parts used in steps above on attached material tracking list.

CARGO BASKET ASSEMBLY - COMMON

Complete
(initial or SC#)

AK

6. Final Inspection

Dual inspection by a different person than assembled the basket.

- a. Check for general condition and correct assembly:
 - i. Bolts are tight
 - ii. Rivets are installed correctly
 - iii. Handle operates correctly
 - iv. Lid brace operates correctly
- b. Check that PO/WO numbers have been recorded.

Work Order: _____

Material Tracking Sheet
Bell 206L / 407

1 of 2

Date Opened: _____

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
			94610-01	Cargo Basket Assembly		
Step 1				<i>Lid Assembly</i>		
	. 1		94612-01	Basket Lid Assembly	2015-33	
Step 1.a.	. . 4		49205-14	Bumper	Argus Industries Bumper	
	. . A/R		--	Sealant	Commercial Silicone RTV sealant	
Step 1.b.	. . 1		94627-01	Placard	0.063 Sheet, 6061-T6 Aluminum	94601-12
	. . 4		CR3213-4-02	Cherry Rivet		15031
Step 1.c.	. 1		70405-01	Lid Step Modification		
(option)	. . 1		70405-04	Tread Plate	3003 Aluminum Tread Plate, 0.063"	15056
	. . A/R		CR3213-4-02	Cherry Rivet	15031	
	. . A/R		--	Sealant	Commercial Silicone RTV sealant	
Step 2				<i>Basket Assembly</i>		
Step 2.a.	. 1		94611-01	Basket Body Assembly	2015-33	
	. . 4		96710-01	Fitting	Alternate: Ancra 40088-14	
	. . 8		NAS1149F0663P	Washer		
Step 2.b.	. 1		90621-01	Brace		
	. 2		AN4-6A	Bolt		
	. 2		AN4-30A	Bolt		
	. 4		NAS1149F0463P	Washer		
Step 3				<i>Hinge Installation</i>		
	. 1		MS20001P4	Piano Hinge	95"	14091
	. 8		CR3523-5-02	Cherry Rivet		15622
	. A/R		CR3213-5-02	Cherry Rivet		15031

Work Order: _____

Material Tracking Sheet

2 of 2

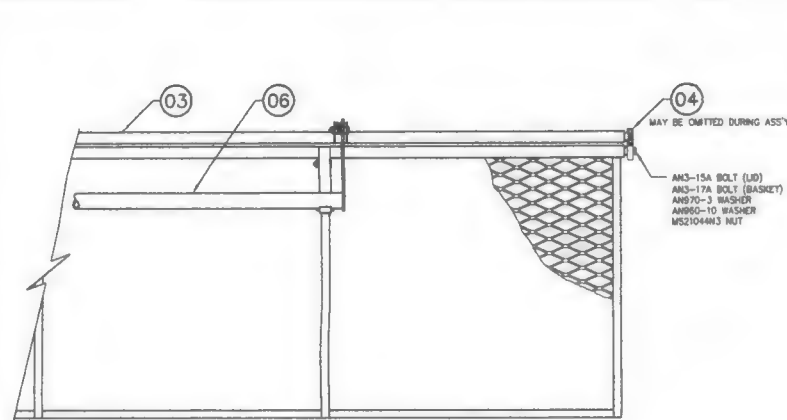
Bell 206L / 407

Date Opened: _____

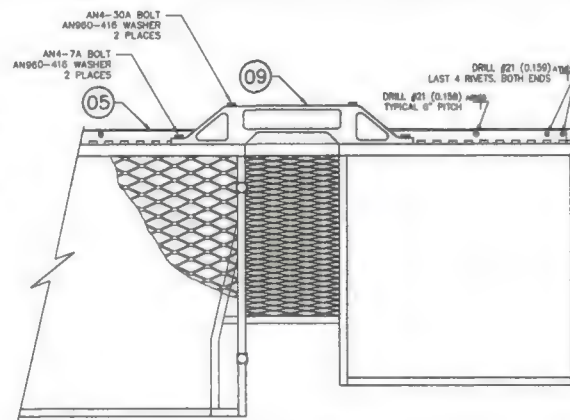
Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 4	. 1	84255	84255-01	Handle Installation		
Step 4.a.	. . 2		84267-01	Bracket	Delrin, 3/4" Sheet	205-02
	. . 4		AN3-11A	Bolt		
	. . 8		NAS1149F0363P	Washer		
	. . 4		MS21044N3	Nut		
Step 4.b.	. . 1		84261-01	Handle Assembly	-84261-02	205-42 / 14103
	. . 2		36278-01	Spring (1 left, 1 right)	304 Stainless, 1/16" Dia Music Wire	
	. . 2		36275-01	Bushing	Brass, 5/16" Dia	
	. . 2		AN3-12A	Bolt		
	. . 4		NAS1149F0363P	Washer		
	. . 2		MS21044N3	Nut		
Step 5				Lid Brace Installation		
	. 1		36280-01	Brace Assembly		
	. 1		AN3-15A	Bolt		
	. 1		AN3-17A	Bolt		
	. 2		AN970-3	Washer		
	. 3		NAS1149F0363P	Washer		
	. 2		MS21044N3	Nut		
Step 6				Inspection	None	
	1		94621-01	BRACE	WO# 2011-45	
	2		AN4-7A	BOLT	15022	
	2		AN4-30A	BOLT	11116	3 TO BROKEN TO 70 INCH LBS
	4		NAS1149 F0463P	WASHER	15022	

2015-87

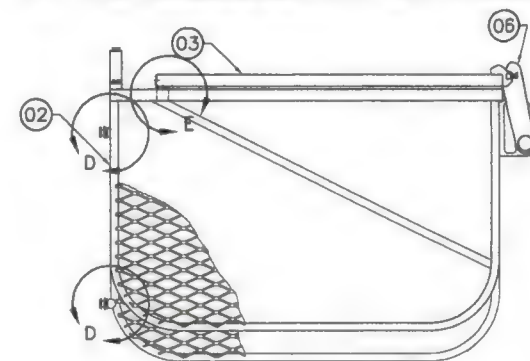
REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	CREATED FROM 94511, REV 0		



VIEW A
LOOKING AT FORWARD OUTBOARD SIDE

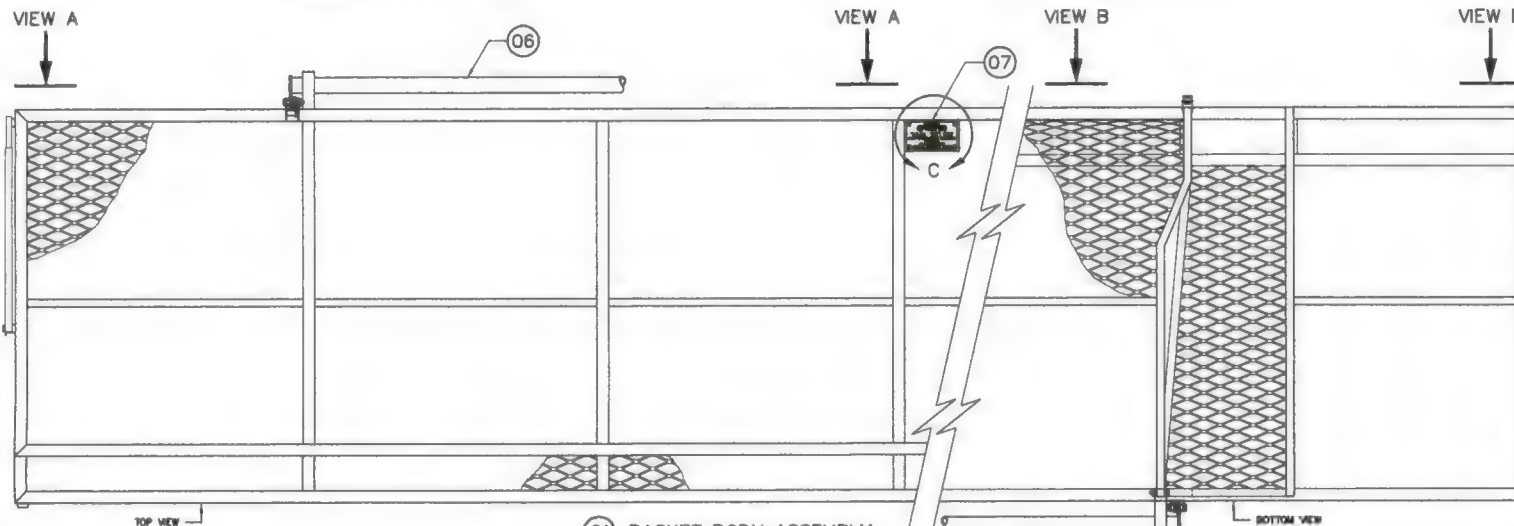


VIEW B
LOOKING AT AFT INBOARD SIDE

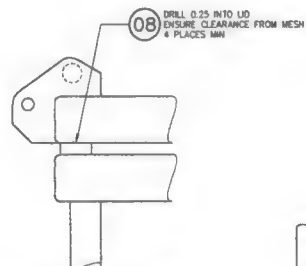


DETAIL D

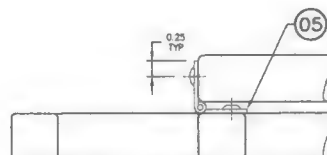
SCALE 1 : 1
LOOKING AT LOWER ATTACHMENT, UPPER ATTACHMENT SIMILAR
TYPICAL FRONT AND REAR



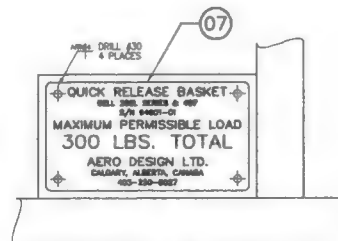
01 BASKET BODY ASSEMBLY



BUMPER INSTALLATION
SCALE 1 : 1



DETAIL E
SCALE 1 : 1
LOOKING AT HINGE



DETAIL C

SCALE 1 : 1
LOOKING AT PLACARD BRACKET

QTY	PART NO.	ITEM	DESCRIPTION	MATERIAL
4	AN950-616	WASHER		
2	AN4-30A	BOLT		
2	AN4-7A	BOLT		
4	AN950-616	WASHER		
4	40085-14	FITTING		ANORA
4	CR3213-5-02	CHERRY RIVET		
4	CR3213-5-02	CHERRY RIVET		
4	CR3213-5-02	CHERRY RIVET		
1	94621-01	BRACKET		
1	94621-01	BRACKET		
1	94627-01	PLACARD		ARGUS INDUSTRIES
1	84255-01	HANDLE BAR INSTALLATION		
1	MS2000IP4	PIANO HINGE		
1	35280-01	BRACKET ASSEMBLY		
1	94612-01	LID ASSEMBLY		
1	94611-01	BASKET BODY ASSEMBLY		
1	94610-01	CARGO BASKET ASSEMBLY		

AERO DESIGN LTD.

CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 2900
2013 - 10TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6E7
Tel: (403) 950-6587 Fax: (403) 950-6588 aerodesign@shaw.ca

BELL 206L SERIES, 407 QUICK RELEASE CARGO BASKET CARGO BASKET ASSEMBLY

SCALE	SIZE	REV
1 : 1	A1	0

BASIC CODE	DASH NO. FOR DIAMETER	APPROVALS	DATE
REF HAS 323	N=MFD HEAD NEAR SIDE F=MFD HEAD FAR SIDE	DR: JEFF CLARKE	24 OCT 2011
C=COUNTERSINK D=DIMPLE DOT=8 OF SHEETS TO BE DIMPLED	DASH NO. FOR LENGTH	CHECKED: E BURGIN	
BASIC CODES: BJ=MS20470AD BB=MS20426AD ABW=CR3213 ATM=CR3523	+ INSTALL NEW RIVET + REMOVE/REPLACE RIVET - EXISTING RIVET	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 X.XX ±0.03 X.X ±0.1	

2015-87

NOTICE

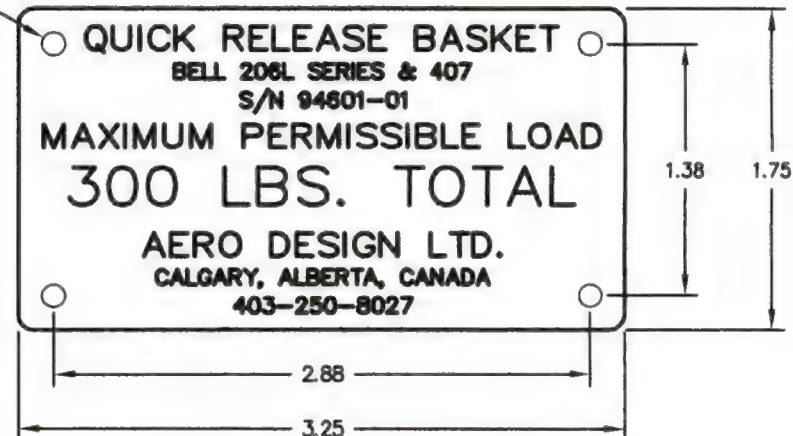
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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	ORIGINAL ISSUE		

NOTES

- ENGRAVE 0.007 DEEP AS FOLLOWS:
 "QUICK RELEASE BASKET" - 0.125 HIGH
 "BELL 206L SERIES & 407" - 0.080 HIGH
 "S/N 94601-XX" - 0.080 HIGH
 "MAXIMUM PERMISSIBLE LOAD" - 0.125 HIGH
 "300 LBS. TOTAL" - 0.200 HIGH
 "AERO DESIGN LTD." - 0.125 HIGH
 "CALGARY, ALBERTA, CANADA" - 0.080 HIGH
 "403-250-8027" - 0.080 HIGH

DRILL #30 (0.129)
4 PLACES



01 PLACARD

1	94627-01	01	PLACARD	6061-T6 ALUMINUM	QQ-A-250/11	0.050 SHEET
01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
QTY	LIST OF MATERIALS					
			APPROVALS	DATE	AERO DESIGN LTD. CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 290M 2013 - 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7 tel: (403) 250-8027 fax: (403) 250-8333 aerodesign@telusplanet.net	
			DRAWN: JEFF CLARKE	16 SEPT 2011		
			CHECKED: E. BURGOIN			
			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1		BELL 206L SERIES, 407 QUICK RELEASE CARGO BASKET PLACARD	
			SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
			SHEET 1 OF 1	A1	94627	0



WO# _____

Approved Manufacturing Facility 73-04

Form 20.F.06

Rev. Original 27 May 2013



Description: Lid Prop

WO# 2015-77

Approved Manufacturing Facility 73-04

Form 20.F.06

Rev. Original 27 May 2013

1. Approving Civil Aviation Authority/Country Transport Canada		2. AUTHORIZED RELEASE CERTIFICATE FORM ONE			3. Form Tracking No.	
4. Organization Name and Address AERO Design Ltd. – 9888A Malaspina Road, Powell River, BC, V8A 0G3					5. Work Order/Contract/Invoice WO 2015-87	
6. Item	7. Description	8. Part Number	9. Qty.	10. Serial/Batch No.	11. Status/Work	
	Cargo Basket	94610-01	1	94601-12	New	
12. Remarks Modified with Lid Walkway IAW DCL704						
13a. Certifies that the items identified above were manufactured in conformity to:				14a. <input type="checkbox"/> CAR 571.10 Maintenance Release		
<input checked="" type="checkbox"/> Approved design data and are in condition for safe operation.				<input type="checkbox"/> Other regulation specified in block 12.		
<input type="checkbox"/> Non approved design data specified in block 12.				Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the Canadian Aviation Regulations.		
13b. Signature <i>Jeff Clarke AD02</i>		13c. Approved Organization Number AMF 73-04		14b. Signature		14c. Approved Organization Number
13d. Name Jeff Clarke - AD02		13e. Date (dd/mmm/yyyy) 18 Aug 2015		14d. Name		14e. Date (dd/mmm/yyyy)
<p align="center">Installer Responsibilities</p> <p>This certificate does not constitute authority to install.</p> <p>Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.</p> <p>Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.</p>						

JMS - HELI SPIRIT